

species at Delphi). Another aspect of interest is the relative scarcity of individuals per species, none being overly abundant and common, as is so often the case on the mainland.

### References

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## The Early Stages of *Anthocharis gruneri* H.-S. from Greece

By JOHN G. COUTSIS, M.Arch.\*

The egg (Fig. 1) is spindle-shaped and bears 17 to 18 vertical ribs and numerous horizontal reticulations extending between the ribs. At first it is shiny light blue, later becomes orange and, prior to hatching, dark grey. In shape it is slightly less elongated than the egg of *Anthocharis cardamines* L. It is laid on the stalk of *Aethionema saxatile* L. (Cruciferae). Time lapse between egg laying and hatching, about four days.

The full grown caterpillar (Fig. 2), when at rest, is approximately one inch in length, being slightly shorter than that of either *cardamines* or *Anthocharis damone* Boisduval. Sides with a white spiracular line which has a well defined lower edge and a fuzzy upper edge, subtly smeared with yellow-green. Spiracles, dirty white. Area above spiracular line, light blue-green with numerous violet spots, the ones situated mid-dorsally topped by a black wartlet. On first thoracic segment black wartlets tend also to invade the sides. Area below spiracular line, dark blue-green, similarly bearing numerous violet spots. Prolegs and true legs, dark blue-green with a number of black wartlets on the sides. Head, light blue-green with numerous black wartlets. All violet spots and black wartlets carry a single whitish hair. Each body segment, furthermore, bears a small number of black warts, each with a single black bristle; there are usually three of them above the spiracular line and one below it on each side, per segment. Time lapse between hatching and pupation, about 15 days.

The pupa (Fig. 3) has a length approximately  $\frac{3}{4}$  of an inch, being shorter than that of either *cardamines* or *damone*. At first it has an overall shiny green ground colour, darker on the dorsum and lighter on the ventrum and wing cases, but in about a week's time this colour is replaced by drabber tones. Sides with a weakly defined dirty white spiracular line. Dorsum, light blue-grey, subtly speckled with poorly defined brown spots. Ventrum, sandy coloured. Wing cases, light brown, veins, sandy. Sides with a dark brown supraspiracular line, most prominent above wing cases, and interrupted by antennal case. Dorsum with a mid-dorsal brown line, extending from base of head to

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tip of abdomen. Ventrums with a ventro-lateral, poorly defined, brown line, extending along all abdominal segments. Wing cases with a discocellular black spot. All body segments with a single, sub-dorsal black spot. Head prominence tipped with brown.

Six specimens bred in captivity from eggs laid in the wild on *Aethionema saxatile*.

### Reference

- Coutsis, John G. 1973. The Larva and Pupa of *Anthocharis damone* Boisduval from Greece (Lep.: Pieridae). *Ent. Rec.*, **85**: 127 and plate VII.

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### Butterflies of West Malaysia and Singapore by W. A. Fleming.

2 vols., roy. 8vo., xx + 157 pp. + 90 coloured plates.  
Classey Publications, 1975. £19.50 p.f.

This work professes to be an illustrated record of all species of butterfly confirmed to have been captured in West Malaysia and Singapore, as well as to figure the most widespread subspecies in all those areas where more than one subspecies is represented. The author admits to being a collector but not an entomologist, consequently his book is less advanced than Corbett and Pendlebury, *The Butterflies of the Malay Peninsular* (1956) though more so than Morrell, *Common Malayan Butterflies* (1960), and may in fact be considered as being complementary to both.

The first 24 pages are by way of introduction. They include three maps, details of nomenclature, distributional notes on the text and plates, the main descriptive features of a butterfly, and a glossary. Most of this matter is repeated in volume 2. In the main text that follows, each species and subspecies is allotted about three lines in which are given: its distribution with references to the maps, references to the numbered plates, and the foodplants (when known). The letterpress concludes with an index of 22 pages of scientific names.

Far and away the most important part of this work is its coloured illustrations, which number altogether 1,600. These are reproductions of photographs of specimens, many of which are in the author's collection. Both the photography and reproductions are very fine indeed, and every example is shown natural size, though mention of the date and locality of each specimen figured would have added interest as well as given even greater authenticity to the illustrations.

The book is well printed and on good paper, but the covers of the bindings are of plastic. As each volume is quite thin, we cannot understand why the book was produced in two volumes: this seems quite unnecessary and must have added considerably to the cost. A single volume in a cloth binding and omitting the duplicated introductory matter would surely have been preferable. Apart from these few strictures, however, this is a handsome and worthwhile publication, and one that we feel sure will serve its purpose of enabling collectors adequately to identify their captures. — J.M.C.-H.